

UDC 624.131.43+539.21.084-492.3

USSR

ZAVRIYEV, K. S., SHPIRO, G. S.

"Calculating Massive Foundations for Deep Laying in a Multilayered Soil Series"

Tr. VNII transp. str-va (Works of the All-Union Scientific Research Institute of Transport Construction), 1971, vyp. 78, pp 87-93 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11V620)

Translation: In the development of a procedure for calculating massive foundations of bridge supports for deep laying discussed in Appendix 25 of SN 200-62 [Construction Norms 200-62], formulas are proposed which permit calculation of foundations buried in a multilayered soil series. The formulas are based on a calculation scheme in which the foundation is considered as an infinitely rigid beam, and the soil series is considered as an elastic base characterized by the bedding coefficient which varies with depth according to an arbitrary law. In contrast to the SN 200-62 procedure, the resistance of the soil base to displacements of the footing points of the foundation not only in the vertical but also in the horizontal directions. The formulas permit determination of the displacements of the foundation, the internal stresses in its transverse (horizontal) cross sections, the normal stresses arising at the contact of the soil with the lateral surface of the foundation and also the normal and tangential stresses arising at the contact of the soil base with the foundation footing.

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UDC 620.179.1

USSR

GORBUNOV, V. I., ZAV'YALKIN, F. M.

"Radiometric Method of Flaw Detection Using Fillers"

Sverdlovsk, Defektoskopiya, No 1, 1971, pp 119-124

Abstract: A study was made of the problem of selecting the filler as a function of the spectrum of the source and the density of the product material. Results are presented from both calculations and experimental studies of the application of a filler for controlling products made of iron and aluminum using Co-60 and Cs-137. An isotopic multichannel defectoscope for controlling cast iron crankshafts of diesel engines before machining is described. The device is designed for detecting internal flaws in accordance with the following technical specifications: 1) the thickness of the controlled product in the direction of irradiation varies from 180 to 40 mm; 2) the output capacity of the device is 40 shafts per hour at a control speed of 1,900 cm²/min; 3) the sensitivity insures flaw detection in the form a blowhole with dimensions greater than 3 x 3 x 3 mm; 4) the width of the control zone is 240 mm. The irradiation source is the cobalt-60 isotope with an activity of 700 g-Ra equivalents with high specific activity.

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Acc. Nr:

AP0049793

Abstracting Service:

CHEMICAL ABST. 5-70

Ref. Code:

UR 0183

101698a Copolymerization of vinyl chloride with acrylic acid. Ruchinskii, S. P.; Zayvalov, A. N.; Kraptsov, B. K.; Krentsel, B. A. (USSR). *Rhim. Volokna* 1970, (1), 75 (Russ). Vinyl chloride (I) and acrylic acid (II) were copolyind. in MeOH contg. some H₂O at atm. pressure and -10 to 5° with an initiating system comprising (NH₄)₂S₂O₈, Rongalite, and Cu salts to give I-II copolymer (III), which was more concd. in II than the original monomer mixt., dyed well with basic dyes, had glass transition temp. ~100°, was more sol. in org. solvents than pure I polymer (IV) and formed fibers from acetone and HCONMe₂ solns. Fibers of III having 10% and 27.2% II had lower tex. strength, and % elongation than IV fibers, but higher shrink resistance (except for III with 27.2% II heated in air at 130°).

BCJR

28.

REEL/FRA
19801715

USSR

UDC 539.143.43+661.718.1

ISHMAYEVA, E. A., KHARRASOVA, F. M., ZAV'YALOV, A. P., and PUDOVNIK, A. N.,
Kazan State University imeni V. I. Ul'yanov-Lenin, Kazan

"The Dipole Moments of Para-Substituted Phenylphosphonates"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 3, Mar 71,
pp 619-620

Abstract: The dipole moments of the p-substituted phenylphosphonates $\text{P-XC}_6\text{H}_4\text{P(O)(OEt)}_2$ ($\text{X} = \text{Me}, \text{MeO}, \text{Cl}, \text{Br}$) and of PhP(O)(OEt)_2 were determined experimentally. They were also calculated on the assumption that the dipole moment of the $(\text{EtO})_2\text{P(O)}$ - group had the value 2.30 D which followed from an orientation of this group in such a manner that the components along the coordinate axes had the values $m_x = 0.72$, $m_y = 0$, $m_z = 2.19$ D (shmayeva, et al Izv. AN SSSR, Ser. Khim., 1970, 2695). The calculated values for compounds $\text{P-XC}_6\text{H}_4\text{P(O)(OEt)}_2$ did not correspond to the experimental values, apparently because of an interaction of X with the $(\text{EtO})_2\text{P(O)}$ -group by conjugation, through the phenyl ring. The experimentally determined dipole moment of PhP(O)Cl_2 corresponded to the calculated moment. 1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--ROLE OF THE INTRACRYSTALLITE DISTRIBUTION OF CARBON IN THE
DEVELOPMENT OF THE PEARLITE TRANSFORMATION OF AUSTENITE -U-
AUTHOR--(02)-BRUK, B.I., ZAVYALOV, A.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, METAL. 1970, (1), 245
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--AUSTENITE TRANSFORMATION, BORON INTENSIFIED STEEL, ALLOY
STEEL, MICROSCOPY, CARBON, SOLID SOLUTION, LANTHANIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/0163 STEP NO--UR/0370/70/000/001/0245/0245
CIRC ACCESSION NO--AP0054959
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054959

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AUSTENITE TRANSFORMATION IS INHIBITED IN ALLOYED STEELS BY CARBIDE FORMING AND NONCARBIDFORMING ELEMENTS. THE INCREASED TEMPERING BY MICROSCOPICALLY SMALL ADDNS. OF B AND LANTHANIDES IS DUE TO THEIR SMALL SOLY. IN SOLID SOLN., SO THAT THE C CONTENT AT THE EDGES OF THE GRAINS IS INCREASED.

UNCLASSIFIED

I/2 007 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RELAXATION OSCILLATIONS ARISING DURING A STUDY OF GRADIENT
INSTABILITY IN NEARLY INTRINSIC GERMANIUM -U-
AUTHOR-(03)-ZAVYALOV, A.V., KARLOVA, G.F., LYUZE, L.L.
COUNTRY OF INFO--USSR Z
SOURCE--FIZ. TVERD. TELA 1970, 12(3), 915-17
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GERMANIUM, VOLT AMPERE CHARACTERISTIC, OSCILLATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/0990

STEP NO--UR/0181/70/012/003/0915/0917

CIRC ACCESSION NO--AP0115011

UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0115011

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT.

N TYPE GE WAS INVESTIGATED WITH A SP. RESISTANCE OF 43 OHM CM OF THE STRUCTURE N PRIME POSITIVE MINUS N MINUS N PRIME POSITIVE, WITH A TRANSVERSE N PRIME POSITIVE MINUS N CONTACT AND WITHOUT IT. MEASUREMENTS WERE CARRIED OUT UNDER PULSED CONDITIONS AT τ EQUALS 50-100 MU SEC AND A FREQUENCY OF REPETITION OF 50 HZ. V A CHARACTERISTICS AND THE POTENTIAL DISTRIBUTION ALONG THE LENGTH OF THE SPECIMENS WERE RECORDED. ON V-1 CHARACTERISTICS, A SECTION WAS OBSD. OF SWITCHOVER FROM A HIGH RESISTANCE STATE TO A HIGH COND. STATE. THE POTENTIAL DISTRIBUTION OVER THE LENGTH OF THE SPECIMEN BEFORE SWITCHING AND AFTER IS DIFFERENT. REDISTRIBUTION OF THE POTENTIAL LEADS TO A RECHARGING OF THE CAPACITANCE CONNECTED TO IT. THE DEPENDENCE IS ALSO GIVEN OF THE PERIOD OF CURRENT OSCILLATIONS IN THE EXTERNAL CIRCUIT ON THE MAGNITUDE OF THE CONNECTED CAPACITANCE. STARTING WITH A VALUE OF C SUBC, THE PERIOD IS PRACTICALLY INDEPENDENT OF THE CAPACITANCE. THE EFFECT OF A MAGNETIC FIELD ON THE PERIOD IS DETD. BY THE EFFECT OF THE HALL EMF. ON THE CAPACITANCE.

UNCLASSIFIED

USSR

ZAV'YALOV, B. A., Candidate of Technical Sciences

UDC 656.22-52

"Structural Version of a Complex Automated Traffic Control System"
Moscow, Avtomatika, Telemekhanika i Svyaz', No 3, 1972, pp 9-12

Abstract: A study was made of an all-around automatic traffic control system which optimizes the planning and coordination of train traffic in sections and the junctions and stations with marshalling yards adjacent to them. The system is envisioned as combining previously developed autonomous systems. It is designed automatically to correct the schedules and execute them with the application of mathematical methods and computers. The various technological subsystems of a complex automatic control system are discussed, its elements are defined and the purpose of the elements described. The types and content of the information required by the various subsystems are discussed. The new system referred to as the ASU-KURS is a system of the man-machine class. The method of differentiated requirements on the machinery of the system is recommended for the ASU-KURS. A study of this approach is the primary purpose of the presented model.

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USSR

UDC 619.616.42-075:636.4

MURATOV, S. I., BURDEYNYI, V. V., Ivanovo Agricultural Institute, KISELEV,
Yu. T., Ivanovo Oblast Veterinary Laboratory, and ZAV'YALOV, N. D.,
Vladimir Oblast

"The Serum Ring Test in the Diagnosis of Brucellosis in Swine"

Moscow, Veterinariya, No 11, 1972, pp 61-62

Abstract: Muratov's serum ring test (SRT) can detect the presence of brucellosis in a herd of animals within a few hours. Early studies showed it to be effective in diagnosing the disease in buffaloes, reindeer, and mink. This report reveals that the test is specific when applied to swine serum. The results of the SRT test were compared with those of the agglutination and complement-fixation tests performed on blood samples from 424 swine (115 on 2 affected farms and 309 on 10 healthy farms). The positive results of the SRT coincided with those of the other tests only in the case of animals on the affected farms. The reactions were negative in the case of animals on the healthy farms.

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USSR

UDC 542.91:547.854.4

ZAY'YALOV, S. I., GUNAR, V. I., and OVECHKINA, Institute of Organic Chemistry
imeni N. D. Zelinskiy, USSR Academy of Sciences

"The First Case of O²-Alkylation of 1-Substituted Uracils"

Moscow, Izvestiya Akad. Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 72,
pp 210-211

Abstract (letter to editor): The writers claim to have established that
alkylation of 1-substituted uracils can be directed to the oxygen atom with
C², provided (CH₃)₂CHI (YP) is used as the alkylating agent, and also that
(CH₃)COH (TB) is used as the solvent. A structural scheme for the reaction
is included in the letter.

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1/2 008 UNCLASSIFIED PROCESSING DATE--2300170
TITLE--ACTIVATING METHYLTHIO DERIVATIVES OF PURINE AND PYRIMIDINE IN
REACTIONS WITH WEAKLY NUCLEOPHILIC COMPOUNDS -U-
AUTHOR-(05)-GRACHEVA, YE.P., VOLKOVA, Z.S., GUNAR, V.I., ARUTYUNYAN, E.A.,
ZAVYALOV, S.I.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 420-3

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--URACIL, PURINE, PYRIMIDINE, HYDROGEN SULFIDE, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1997/0854

STEP NO--UR/0062/70/000/002/0420/0423

CIRC ACCESSION NO--AP0119758

UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119758

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. 6,METHYLTHIOPURINE (I) AND HGCL SUB2 IN ETOH GAVE A 1:1 COMPLEX, DECOMPD. 215-18DEGREES, WHICH WITH H SUB2 S REGENERATED THE PURINE. PHNH SUB2 AND HGCL SUB2 WITH I GAVE 77PERCENT 6,ANILINOPURINE, M. 284-6DEGREES, WHILE RHO-CHLOROANILINE GAVE 6,(RHO,CHLOROANILINO) PURINE, M. 317-19DEGREES. I AG SALT AND ACCL IN C SUB6 H SUB6 GAVE THE 9,AC DERIV. OF I, M. 134-6DEGREES, WHICH WITH PHNH SUB2 3 HR AT 110DEGREES GAVE 45PERCENT 6,ANILIO, 9,ACETYPURINE, M. 271-2DEGREES, WHILE HOLDING WITH AQ. MENH SUB2 2 HR GAVE 71PERCENT 6,METHYLAMINO,9,ACETYPURINE, M. 219-21DEGREES. S, METHYL,6,METHYL,2,THIOURACIL AND HGCL SUB2 TREATED WITH BUOH IN THE PRESENCE OF PRIDINE 6 HR AT REFLUX GAVE 37PERCENT 2,BUTOXY,4, HYDROXY,6,METHYLPYRIMIDINE, M. 87-8DEGREES, WHICH WITH AQ. HCL GAVE 6,METHYLURACIL. SIMILARLY, S,METHYL,2,THIOURACIL GAVE 2, BUTOXY,4,HYDROXYPYRIMIDINE, M. 85-6DEGREES. THUS, HGCL SUB2 CATALYZES AMINATION OF I AND ALCOHOLYSIS OF S-ME THIOURACILS. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MUSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--MODELING OF BIGTIN BIOSYNTHESIS. 2. INTRODUCTION OF OXYGEN AND
SULFUR ATOMS INTO MOLECULES OF 2-IMIDAZOLINONE DERIVATIVES -U-
AUTHOR--(05)-RODIONOVA, N.A., UNANYAN, M.P., KONDRATYEVA, G.V., ZAVYALOV,
S.I., FILIPPOV, V.V.
COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3) 660-5

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY

TOPIC TAGS--IMIDAZOLE, KETONE, ORGANIC SULFUR, BIOSYNTHESIS, GLYCINE,
SERINE, VITAMIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1764

STEP NO--UR/0062/70/000/003/0660/0665

CIRC ACCESSION NO--AP0123563

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 017

CIRC ACCESSION NO--AP0123563

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING 3.5 G 4, METHYL, 2, IMIDAZOLINONE WITH 1.1 G PARAFORMALDEHYDE AND 1-2 DROPS ET SUB3 N IN MECH 3 HR GAVE 4(5), METHYL, 5(4), HYDROXYMETHYL, 2, IMIDAZOLINONE, DECOMPD. LARGER THAN 300DEGREES. SIMILAR REACTION WITH PARAFORMALDEHYDE IN THE PRESENCE OF PIPERIDINE IN MECH 4 HR GAVE 58PERCENT 4(5), METHYL, 5(4), PIPERIDINOMETHYL, 2, IMIDAZOLINONE, DECOMPD. SMALLER THAN 290DEGREES, ALSO PREPD. FROM 1,3, DIACETYL, 4(5), METHYL, 5(4), BROMOMETHYL, 2, IMIDAZOLINONE AND PIPERIDINE. HYDROXYDEHYDRODETHIOBIOTIN AND PARAFORMALDEHYDE REFLUXED IN ETOH 3 HR GAVE HYDROXYDEHYDRODETHIOBIOTIN, DECOMPD. LARGER THAN 280DEGREES. 1,3, DIACETYL, 4(5), BROMOMETHYL, 2, IMIDAZOLINONE AND ACCK IN ME SUB2 CO OVERNIGHT GAVE 30PERCENT 1,3, DIACETYL, 4(5), (ACETYLTHIOMETHYL) 2, IMIDAZOLINONE, M. 49-51DEGREES. SIMILARLY WAS PREPD. THE 4(5), ME ANALOG, M. 67-8DEGREES AND 1,3, DIACETYL, 4, 5, BIS(ACETYLTHIOMETHYL), 2, IMIDAZOLINONE, M. 106-7DEGREES, AND 1,3, DIACETYL, 4(5), (ACETYLTHIOMETHYL), 5(4), DELTA, CARBETHOXYVALEROYL, 2, IMIDAZOLINONE, M. 109-10DEGREES, WHICH WITH N, BRUNOSUCCINIMIDE IN REFLUXING CCL SUB4 GAVE IN 1 HR AN OIL, WHICH TREATED WITH ACCK, THEN WITH AQ. KMNO SUB4, GAVE AFTER FINAL HEATING 3 HR WITH AQ. HCL 1,3, DIACETYL, 4(5), (ACETYLTHIOMETHYL), 5(4), (CARBETHOXYAMYL), 2, IMIDAZOLINONE, OIL. A POSSIBLE SCHEME OF BIOGENESIS OF BIOTIN FROM SERINE, GLYCINE AND DETHIOBIOTIN WAS DISCUSSED. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

Bionics

USSR

UDC 542.19:577.164.18

ZAVIYALOV, S. I., Doctor of Chemical Sciences, Institute of Organic Chemistry
Imeni N. D. Zelinskiy, Academy of Sciences USSR

"Bionics and Organic Synthesis"

Moscow, Priroda, No 6, 1970, pp 62-65

Abstract: The principles, concepts, and ideas of the rapidly evolving biological sciences have affected other scientific disciplines as well, particularly organic chemistry. A new scientific field has come into being, bio-organic chemistry, which has as a goal the modeling of living systems (bionics). The study of the capacity for life and the formation of organisms has occupied scientists and engineers in their research on the flight of birds and insects and the movement of fish and dolphins. Bionics as applied to organic chemistry relates to the study of the living cell, the growth of plants and animals, the synthesis of living matter, from the simplest substances such as glycerin and acetic acid to the most complicated such as proteins, nucleic acids, and vitamins. Chemists have succeeded in synthesizing important parts of naturally occurring alkaloids. Hydrocortisone, a powerful natural bioregulator synthesized in the adrenal cortex, has been synthesized by chemists through a complicated reaction scheme. Chemists can

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USSR

ZAV'YALOV, S. I., Priroda, No 6, 1970, pp 62-65

also synthesize analogs of naturally occurring substances (e.g.) tubocurarin.
Bionics has thus become an important field for the chemist in the study of new
phenomena, the search for preparations of biological importance, and the develop-
ment of new synthetic methods.

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1/2 010 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--REACTION OF URACILS WITH PHOSPHORIC ACID AMIDES --U-
AUTHOR--(03)-ARUTYUNYAN, E.A., GUNAR, V.I., ZAVYALOV, S.I.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (4), 904-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--URACIL, PHOSPHORIC ACID, AMIDE, CHEMICAL REACTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3004/0444 STEP NO--UR/0062/70/000/004/0904/0909
CIRC ACCESSION NO--AP0131083
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 010

CIRC ACCESSION NO--AP0131083

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AMINE HCL AND POCL SUB3 CATALYZE THE REACTIONS OF URACILS WITH AMIDES OF PHOSPHORIC ACID IN WHICH POSSIBLY THE CARBONYL FORMS OF URACILS TAKE PART THROUGH A 4 CENTER REACTION INTERMEDIATE. HEATING URACIL WITH ME SUB2 NH. HCL AND (ME SUB2 N)SUB3 PO 1 HR AT 235DEGREES GAVE 75PERCENT 2,4 BIS(DIMETHYLAMINO) PYRIMIDINE, M. 38-41DEGREES; WITHOUT ME SUB2 NH.HCL THE YIELD WAS BUT 56PERCENT IN 2.5 HR. (FORMULAS SHOWN ON MICROFICHE). FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DELTA AMINOLEVULINIC ACID HYDROCHLORIDE -U-
AUTHOR--(03)-ARONOVA, N.I., MAKHOVA, N.N., ZAVYALOV, S.I.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R, 266,773
REFERENCE--OTKRYTIYA IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(12)
DATE PUBLISHED--01APR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL PATENT, CHEMICAL SYNTHESIS, HYDROLYSIS, CARBOXYLIC
ACID CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1811 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0132077
UNCLASSIFIED

2/2 010 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AA0132077
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DELTA AMINOLEVULINIC ACID
HYDROCHLORIDE (I) WAS PREPD. BY ACYLATING 2-PHENYL-5-OXAZOLINE WITH ET
SUCCINIC ACID CHLORIDE IN AN ORG. SOLVENT OF THE ALKYL PYRIDINE SERIES,
SUCH AS PICOLINE, WITH SUBSEQUENT HCL HYDROLYSIS OF THE C ACYL DERIV.
AND SEPN. OF I BY TREATING THE REACTION MASS WITH ACETONE.
FACILITY: ZELINSKII, N. D., INSTITUTE OF ORGANIC CHEMISTRY.

UNCLASSIFIED

1/2 007
UNCLASSIFIED
TITLE--FAVORABLE EFFECT OF GAMMA,PICOLINE ON C,ACYLATION OF
2,PHENYL,5,OXAZOLINONE -U-
AUTHOR-(03)-ARONOVA, N.I., MAKHOVA, N.N., ZAVYALOV, S.I.
PROCESSING DATE--23OCT70
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (3), 724
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PYRIDINE, BENZENE DERIVATIVE, ORGANIC AZOLE COMPOUND, STERIC
HINDRANCE, ACYL RADICAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1999/1883
STEP NO--UR/0062/70/000/003/0724/0724
CIRC ACCESSION NO--AP0123671
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--23OCT70

2/2 007

CIRC ACCESSION NO--AP0123671

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FOR ACYLATION OF 2-PHENYL-5-OXAZOLINONE, 4-METHYL-PYRIDINE, RATHER THAN THE 3-ISOMER (CARTER H. E., ET AL., 1953) WAS USED. THE FOLLOWING YIELDS WERE OBTAINED FROM THE ACYLATION RUN WITH INDICATED RCOCL (R SHOWN), RESP., IN 4, 3, AND 2-METHYLPYRIDINES AND IN PYRIDINE ITSELF: CH SUB2 CH SUB2 OET 35PERCENT, 8PERCENT, TRACES, 0; CH SUB2 CH SUB2 CO SUB2 ME, 54, 10, 0,0; AND N,C SUB15 H SUB31 34, 21, 0, TRACES. THE FAVORABLE ACTION OF THE 4-ISOMER IS ASCRIBED TO STERIC HINDRANCE AFFORDED BY IT TO THE COMPETING NUCLEOPHILIC ATTACK OF THE ANION OF THE OXAZOLINONE ON THE C ATOM OF THE ACYLPYRIDINIUM CATION. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 542.91 + 547.854.4
 ARUTYUNYAN, E. A., GUNAR, V. I., and ZAV'YALOV, S. I., Institute of
 Organic Chemistry imeni N. D. Zelinskiy, Moscow, Academy of Sciences
 USSR

"Peculiarities of the Reaction of Uracils and Phosphoric Acid Amides"
 Moscow, *Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya*, Vol 4,
 Apr 70, pp 904-909

Abstract: The authors studied conditions for direct amination of
 uracyl and related structures with phosphoric acid amides. The re-
 action gives high yields of 2,4-diaminopyrimidines when it is carried
 out at 215-240° for 10-90 min in the presence of traces of acids.
 Amine hydrochlorides and POCl₃ may be used as catalysts. Uracils
 unsubstituted at the nitrogen atom, 2,6-dimethyl-4-hydroxypyrimidine,
 and hypoxanthine give smoothest reactions with O=P(NR₂)₃(I). The
 amides of phosphoric acid may vary in their alkyl substituents. The
 authors believe that the reaction of (I) with the amide function
 occurs as a 1,2-addition through a four center intermediate structure.
 The authors thank V. A. KORENEVSKIY for his spectrum research.

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USSR

UDC 542.91 + 547.857

ARUTYUNYAN, E. A., GUNAR, V. I., and ZAV'YALOV, S. I., Institute of Organic Chemistry imeni N. D. Zelinskiy, Moscow, Academy of Sciences USSR

"New Synthesis Method for 6-Aminopurines"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, Vol 4, Apr 70, pp 953-955

Abstract: A new synthesis of 6-aminopurines was developed by direct amination of hypoxanthine (I) or its derivatives with phosphoric acid amides. For example, (I) heated with $O:P(NH_2)_2OC_6H_5$ at 235° gave adenine, m.p. $> 300^\circ C$; (I) heated with $O:P(NHCH_2C_6H_5)_3$ at $230-235^\circ$ gave 6-benzylaminopurine, m.p. $205-206^\circ$; 9-benzylhypoxanthine (II) heated with $O:P(N(CH_3)_2)_3$ at $200-225^\circ$ gave 6-dimethylamino-9-benzylpurine, m.p. $127-129^\circ$; (II) heated with $O:P(NHC_6H_5)_3$ at $220-235^\circ$ gave 6-anilino-9-benzylpurine, m.p. $180-182^\circ$; and finally, xanthene heated with $O:P(N(CH_3)_2)_3$ gave 2,6-bis-(dimethylamino)-purine, m.p. $233-237^\circ$.

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USSR

2 UDC 621.314.61

NOVIKOV, M. N., PASHENTSEV, I. D. and ZAV'YALOV, V. A.

"Calculation of the Distribution of Pulse Voltage in a Network of Semiconductor Rectifiers in Series"

Sb. tr. Leningr. In-t inzh. zh.-d. transp. (Leningrad Institute of Railroad Transportation Engineers -- Collection of Works), Issue 293, pp 29-38 (from RZh-Elektronika i yeye primeneniye, No 1, Jan 70, Abstract No 1B355)

Translation: The problem of the effect of barrier capacitances of particular rectifiers on the character of the pulse voltage distribution is considered. A method is developed for calculation of pulse voltage distribution in the circuit of type VK²-200 rectifiers which do not have protecting elements and equalizing elements. The results of the calculated and experimental data are compared. Four illustrations and five references. Summary

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USSR

UDC: 621.643.002.2 + 411.4

ZERNOV, A. V., ZAV'YALOV, V. E., INDYUKOV, A. F.,
IVANTSOV, V. YA., Ural NITI, Chelyabinsk; and
SHCHEPKIN, E. V., MITROSHIN, S. S., Nefteprovodmontazh
Trust, Ufa.

"Possibility of Automatic Double Welds of the Elbow Joints in
Large Diameter Pipelines"

Moscow, Stroitel'stvo Truboprovodov, No 8, Aug 71, pp 15-17

Abstract: The Ural Pipe Industry Research Institute developed a
method for producing automatic double-V welds under flux with an
overhanging welding head in plates of 6-12 mm thickness with
2-2.5 mm gap.

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USSR

ZERNOV, A. V., et al., Stroitel'stvo Truboprovodov, No 8, Aug 71, pp 15-17

With this method the welding arc is stabilized by a magnetic field created by a solenoid concentric with the electrode. The solenoid winding is in series with the welding circuit. The magnetic field is controlled by varying the distance of the solenoid from the weld.

This method makes it possible to make the initial root weld either from inside or from outside in the elbow joint of a pipe.

Analysis of weld sections showed that the quality of the welds is adequate. The subject solenoids can be installed on existing welding heads. This will result in increased productivity and quality.

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USSR

UDC: 669.783.5:538.2

ZAV'YALOV, V. K., RADOVSKIY, I. Z., LEVIN, Ye. S., NVZOROVA, E. G., GEL'D, P. V.,
Sverdlovsk

"Magnetic Properties of Liquid Alloys of Germanium with Iron, Cobalt and Nickel"

Moscow, Izvestiya Akademii Nauk SSSR, Metally, No 6, 1973, pp 32-34.

Abstract: This article presents the results of investigation of the magnetic susceptibility of liquid Fe-Ge, Co-Ge and Ni-Ge alloys. The concentration-temperature dependence of magnetic susceptibility was studied by the Faraday method in the 900-1700° C temperature interval. It was found that the Curie-Weiss law is followed in Fe-Ge melts where $N_{\text{Ge}} < 0.7$, in Co-Ge melts where $N_{\text{Ge}} < 0.45$, and is not followed in Ni-Ge melts. The concentration dependences of effective magnetic moments μ_{eff} for Fe-Ge and Co-Ge alloys differ qualitatively. In the first case, the dependence of μ_{eff} on N_{Ge} shows a minimum near $N_{\text{Ge}} = 0.2$, while in the second case μ_{eff} remains independent of concentration approximately up to $N_{\text{Ge}} = 0.15$, then increases from $3.0 \mu_B$ to $3.7 \mu_B$ (at about 30 at. % Ge).

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USSR

UDC 629.7.063.7(093.8)

SKOTNIKOV, P. A., SALTAYS, E. A., SALUSIN, V. K., GRAYFER, K. P., ~~ZAV'YALOV, V. I.~~

"Bypass Valve for Aircraft Engine Lubrication System"

USSR Authors' Certificate, Class B 64 d 33/00, F 16 k 5/00, No. 305104, Announced 3 February 1970, Published 10 September 1971 (from RZh-Aviatsionnyye i raketnyye dvigateli, No 4, Apr 72, Abstract No 4.34.66 P)

Translation: A bypass valve for an aircraft lubrication system according to Authors Certificate No. 295712 (see RZh-Aviatsionnyye i raketnyye dvigateli, 1971, 12.34.42) is patented but is distinguished by the fact that to reduce hydraulic resistance the cavity of the shut-off element is separated by a partition into two chambers, radial slits in which have opposite angular displacement relative to the corresponding slits in the overlapping bushing separated from the bimetallic spiral by a cylindrical screen. 2 ill., Resume.

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Lubricants and Lubrication

USSR

UDC 669.24'14'715-419:621.771

KHOREV, M. I., and ZAV'YALOV, YU. I.

"Eliminating Metal Gathering on the Rolls in Rolling Nickel-Steel-Aluminum Strip"

Moscow, Tsvetnyye Metally, No 3, Mar 76, pp 52-54

Abstract: A description is given of a method of rolling with various pass reductions using various technological lubricants in order to eliminate metal gathering on the rolls. A table shows 5 sets of parameters for pass reductions, weldability ratios, and metal gathering on rolls; another table gives the compositions of 9 lubricants, their characteristics, and rolling results. Lubricant No 3 was found best in eliminating metal gathering. The subsequent rolling is done on a cluster mill 160/350x450: 0.95--0.65--0.5--0.38--0.24--0.20 mm using lubricants Nos. 5 and 6, since they burn out best on annealing. The strip is annealed in a compartment-type electric furnace for 12 hrs., the tape temperature being $535 \pm 5^{\circ}\text{C}$.

1/2 032 UNCLASSIFIED
TITLE--PIEZORESISTANCE AFFECT IN SBSI -U- PROCESSING DATE--04DEC70
AUTHOR-(03)-ZAVYALOVA, A.M., ZAKS, P.L., SYRKIN, L.N.
COUNTRY OF INFO--USSR 2
SOURCE--FIZ. TVERD. TELA 1970, 12(5), 1580-2
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MECH., IND., CIVIL AND MARINE ENGR, PHYSICS
TOPIC TAGS--ANTIMONY, IODIDE, SINGLE CRYSTAL, SULFUR COMPOUND, PHASE
TRANSITION, HYDROSTATIC PRESSURE, HIGH PRESSURE EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0962 STEP NO--UR/0181/70/012/005/1580/1582
CIRC ACCESSION NO--AP0133048
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0133048

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE EFFECT OF HYDROSTATIC PRESSURE (1-1000 ATM) WAS INVESTIGATED OF DARK COND. OF S051 CLOSE TO THE POINT OF THE PHASE TRANSITION ON POLYCRYST. SPECIMENS AS WELL AS ON SINGLE CRYSTALS. FROM RESULTS OF THE MEASUREMENTS OF THE PRESSURE DEPENDENCE OF SP. RESISTANCE, THE COEFF. OF PIEZORESISTANCE AT HYDROSTATIC PRESSURE WAS CALCD., WHICH IS A COMBINATION OF LONGITUDINAL AND TRANSVERSE COEFFS. IN THE REGION OF THE PHASE TRANSITION, A SHARP MAX. WAS OBSD. IN THE DEPENDENCE OF THIS COEFF. ON TEMP. WITH INCREASED PRESSURE, THE MAX. IS SHIFTED TOWARDS LOWER TEMPS. AND ITS MAGNITUDE DECREASES MONOTONICALLY, BUT STILL REMAINS LARGE EVEN AT TEMPS. FAR FROM THE PHASE TRANSITION. PRESSURE DERIVS. OF THE ENERGY OF THE ACTIVATION AND THE WIDTH OF THE FORBIDDEN BAND HAVE MAX. AT THE PHASE TRANSITION WHICH WITH INCREASED PRESSURE ARE SHIFTED TOWARD LOWER TEMPS.

UNCLASSIFIED

USSR

UDC 546.43'23:539.238

SVECHNIKOV, S. V., SHTRUM, YE. L., KLOCHKOV, V. P., ZAV'YALOVA, L. I.
and TORCHUN, N. M., Institute of Semiconductors, Academy of Sciences USSR

"Monocrystalline Layers of Cadmium Selenide"

Moscow, Izvestiya Akademii nauk SSSR, Neorganicheskiye materialy, Vol 7,
No 12, Dec 71, pp 2146-2149

Abstract: This paper concerns the study of the specific properties of a single-crystal layer grown on a substrate. The experimental layer of hexagonal and a mixture of hexagonal and cubic modifications was produced by vacuum deposition of cadmium selenide on mica substrates in a quasi-closed space. The morphology of the deposited layer indicates that the surface growth of cadmium selenide layers is formed by hexagonal pyramids or triangles and hexagons. Three basic types of pyramids are observed: pyramids with pointed apexes and flat lateral faces, stepped pyramids, and truncated pyramids. A correlation was revealed between the dimensions of the grown shapes and their electric conductivity. Both the resistivity and photosensitivity of the layers increase with the increasing cross section of the pyramids. The photosensitivity of single-crystal layers comprising cubic and hexagonal modifications of CdSe is higher than that of layers with hexagonal modifications. (1 illustrations, 10 bibliographic references)

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Radiobiology

USSR UDC 616.833-001.28-003.93:616.71-008.46-089.843:611-018.461

ZAYACHKOVSKIY, A. G., Chair of Nervous Diseases, Ternopol' Medical Institute, Ternopol'

"Effect of the Transplantation of Preserved Autologous Bone Marrow on Nerve Regeneration in Combined Trauma"

Kiev, Vrachebnoye Delo, No 5, May 71, pp 119-121

Abstract: Rabbits were irradiated with x-rays in a dose of 600 r. Immediately after irradiation, neurotomy of the left sciatic nerve was carried out, followed by neurorrhaphy. Twelve or 144 hrs after irradiation, the animals received an intravenous injection of autologous preserved bone marrow in an amount corresponding to $3 - 5 \times 10^5$ nuclear cells. The bone marrow was removed by suction from the femur and tibia and preserved at minus 78° in a 15% solution of dimethylsulfoxide. Transfusion of the bone marrow 12 hrs after irradiation resulted in a higher rate of survival of the animals and produced more effective regeneration, resorption of decay products, neurotization, and myelinization of nerve fibers than transfusion 144 hrs after irradiation.

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USSR

UDC [537.226+537.311.33]:[537+535]

BERCHA, D. M., ZAYACHKOVSKIY, M. P., SLIVKA, V. YU, LOVGA, I. V., TURBANITSA,
I. D., AND CHEPUR, D. V.

"Effect of Piezoresistance in BiSeI Crystals"

V sb. Poluprovodn. elektronika (Semiconductor Electronics -- Collection of
Works), Uzhgorod, 1971, pp 53-58 (from RZh-Fizika, No 10, Oct 71, Abstract
No 10YE651 by G. G. RUDOVOL)

Translation: An investigation was made of the effect of piezoresistance and
electrical conductivity in acicular BiSeI single crystals, as well as their
temperature dependence in the $270-115^{\circ}$ K temperature range. It was established
that the piezoresistance coefficient is complexly (peakwise) temperature-
dependent. It is suggested that the semiconductor has several donor levels,
which are depleted in turn. This results in several peaks, dependent on the
number of impurity levels. However, the peak found in the $130-140^{\circ}$ K tempera-
ture region is due to a phase transition of the second kind. In the 230° K
region the piezoresistance does not involve a phase transition but is due to a
change in the activation energy of impurity levels. Such an assumption is
confirmed by the fact that in experimental studies a shift in the minimum is
observed from specimen to specimen, while the minimum remains constant at
 $T=133^{\circ}$ K.
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USSR

UDC 616.831:616.936]-07

ZAYACHKOVSKIY, S. M., Chair of Infectious Diseases, L'vov Medical Institute

"Cerebral Forms of Malaria"

Kiev, Vrachebnoye Delo, No 12, 1971, pp 104-105

Abstract: From 1964 to 1966 47 patients with cerebral malaria were observed in a hyperendemic region [unspecified] of malaria outside the Soviet Union. The 42 males and 5 females ranging in age from 15 to 50 developed the characteristic cerebral symptoms 2 to 20 days after onset of the disease together with somnolence (15), sopor (21), or coma (11). Almost all exhibited the meningeal syndrome, various neurologic disturbances, and the typical symptoms of malaria. Therapy was generally initiated with intramuscular injection of the schizonticide chloroquine diphosphate. Other agents administered included glucose, polyvinylpyrrolidone, norepinephrine, nikethamide (cordiamine), ascorbic acid, calcium gluconate, cocarboxylase, and hydrocortisone. Lumbar punctures aided 17 patients with symptoms of meningeal irritation. The prognosis for cerebral malaria is always guarded, especially for those in a coma. Five of the 111 who went into a coma died, whereas the other 36 recovered.

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USSR

UDC 621.315,592

DOVGOSHEY, N. I., FIRTSAK, Yu. Yu., TURBANITS, I. D., ZAYACHKOVSKIY, V. P.,
and MEL'NICHENKO, T. N.

"Production and Some Physical Properties of SbSI and SbSeI Films"

V sb. Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 66-70 (from RZh-Elektronika i yeye primeneniye, No 9, September 1971, Abstract No 9B165)

Translation: The films were produced by the method of discrete explosive vaporization of source material in a unit mounted at the base of the UVR-2 general-purpose vacuum station. Single crystals obtained from the gaseous phase were used as the source material. Vaporization was conducted at a pressure of 10^{-4} mm of mercury on cold and hot mica and glass substrates. X-ray studies showed that specimens deposited on the cold substrates are quasi-morphous, and films obtained on substrates heated to 150-160°C were polycrystalline. Films deposited on substrates heated to 270°C display an excess of SbS₃ and Sb₂Se₃, respectively. Measurements of the electrical conductance were made on films obtained on mica substrates heated to 150-160°C. The temperature dependence of the electrical conductivity for a SbSI film is characterized by a low-temperature linear section with an activation energy

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USSR

DOVGOSHEY, N. I., et al., Poluprovodn. elektronika (Semiconductor Electronics -- Collection of Works), Uzhgorod, 1971, pp 66-70 (from RZh-Elektronika i yeye primeneniye, No 9, September 1971, Abstract No 8B165)

of 0.08 eV and two sections of linear dependence in the region of high temperatures (0-100°C) with activation energies of 0.57 and 0.68 eV. For SbSeI the temperature dependence of electrical conductivity has two linear sections with activation energies of 0.96 and 0.98 eV. The width of the forbidden band $\Delta E = 1.94$ eV is determined by the spectral dependence of the absorption coefficient (K) for SbSI films at room temperature. The absorption edge K is a straight line in the case of the function $K^{1/2} = f(h\nu)$. The function $K^{1/2} = f(h\nu)$ plotted for SbSeI gives a width of the forbidden band equal to 1.73 ± 0.05 eV and indicates the presence of interzonal indirect junctions. 9 ref. I. I.

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USSR

UDC 539.374

SEVERDENKO, V. P., STEPANENKO, A. V., ZAYASH, I. V.
~~NIKOLAIKOV, I. V.~~

"Effect of Intensity of Ultrasonic Vibrations on Certain Parameters of the Rolling Process"

V sb. Plastich. deformatsiya i obrab. met. davleniyem (Plastic Deformation and Pressure Working of Metals--collection of works), Minsk, "Nauka i tekhn.", 1969, pp 46-50 (from RZh-Mekhanika, No 3, March 1970, Abstract No. 3V419)

Translation: A study has been made of the effect amplitude has on reducing forces and increasing reduction and drawing when strips are rolled from MZ copper with the superposition of ultrasonic vibrations. It is shown that the efficiency of the action of ultrasonic vibrations rises as the intensity is increased and as the degree of reduction is diminished.

Resume

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USSR

UDC 533.69

FERENETS, V. A., and ZAYATS, P. K., Kazan' Order of the Labor Red Banner Aviation Institute

"A Pneumoelectric Monitor for Aerodynamic Angles"

USSR Author's Certificate No 366121, Filed 19 Jan 70, Published 16 Jan 73
(from Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 7, Mar (a) 73, Claim No 1400485/40-23)

Translation: 1. A pneumatic monitor for aerodynamic angles containing a cylindrical nozzle, placed perpendicular to the unperturbed incoming flow with two series of inlets warmed by the electrical current of a semiconductor thermistor inserted in the measuring circuit, distinguished by the fact that in order to increase the reliability of operation and decrease the pressure pulsation in the inlets, a flow chamber connected with the inlets is introduced in the pneumatic scheme of the transducer.

2. The pneumoelectric transducer in paragraph 1, is distinguished by the fact that, in order to increase the accuracy of measurement, capsules of thermo-anerometric transformers, consisting of a bead thermistor, a nozzle and an insulating sleeve, are mounted in the channels at the chamber outlet.

3. The pneumoelectric transducer in paragraph 1 is distinguished by the

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USSR

FERENETS, V. A. and ZAYATS, P. K., USSR Author's Certificate No 366121, Filed 19 Jan 70, Published 16 Jan 73

fact that, in order to increase the range of aerodynamic angles measurable, a servo system is introduced, controlled by a signal of mismatch with the output of the measuring scheme of the transducer, providing such a position of the nozzle relative to the air flow, that equality of pressure in the inlets is achieved.

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USSR

VAVILOV, V. S., GUZEYEV, N. V., ZAYATs, V. A., KONONENKO, V. L., MANDEL'SHTAM, T. S.,
and MURZIN, V. N.

"The Spectra of Photo Excitation of Free Excitons by Submillimeter Radiation in
'Ultra Pure' Germanium"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 17,
No 9, 5 May 73, pp 480 - 483

Abstract: Recent experiments have been successful in the study of characteristics of excitons in the long-wave infrared band. Absorption in the region of 2 - 5 Kev was observed in 1971. Subsequent experiments with a backwards wave tube recorded absorption by free excitons in germanium of a triplet with a maximum at 3.42 Mev. In both cases the germanium had residual impurities of $10^{12} - 10^{13} \text{ cm}^{-3}$, which does not completely exclude possible impurity effects. The authors have made tests at impurity levels no greater than $5 \cdot 10^{10} \text{ cm}^{-3}$ with a backward wave tube at 340 - 455 and 510 - 730 micrometers, as well as with a diffraction spectrometer at the far infrared region of 60 - 700 micrometers. The experiments were at 1.5 - 4.2 degrees K.

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USSR

VAVILOV, V. S., et al., Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 17, No 9, 5 May 73, pp 480 - 483

Results indicate that the binding energy of the exciton in the ground state is 3.7 Mev and that the distance between the lowest two states is 0.7 Mev, a result which agrees fairly well with theoretical predictions and with measurements in the interzonal transition region. The narrowness of the absorption lines measured indicates that kinetic energy of the excitons does not substantially contribute to broadening these lines. The broadness is apparently related to interactions between the excitons and null oscillations of the crystal lattice.

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USSR

GUSEV, B. V., ZAZIMKO, V. G., ZAYATS, Yu. L., OSIPOV, B. A.

"Graphic Analysis in the Study of Mathematical Models"

Graficheskiy Analiz pri Issledovanii Matematicheskikh Modeley [English Version Above], Dnepropetrovsk, 1972, 8 pages (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V710 DEP, by the authors).

Translation: Graphic analysis of mathematical models of technological processes is applied. It is demonstrated using two examples, determination of the optimal parameters of vibration and composition of concrete.

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USSR

UDC: 621.319.4

ZAYATS, V. K., SIDOROV, G. I., ALEKSANDROV, Yu. A., PALAGIN, V. A.

"An Installation for Testing Capacitors on Audio Frequencies"

Pribery i sistemy avtomatiki. Resp. mezhved. nauch.-tekhn. sb. (Devices and Systems for Automation. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 45-48 (from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V330)

Translation: The authors describe an installation for reliability testing capacitors in the acoustic frequency range. The unit is a low-frequency power oscillator operating into a tank circuit whose capacitive element is a test group of capacitors. Test frequencies are 100, 200, 400, 500, 1,000, 2,500, 5,000 and 10,000 Hz. The maximum capacitance of the group of test capacitors is 10 μ F at a maximum voltage of 1,400 V on 100 Hz, and 210 V on 10,000 Hz. The installation can be used for long-term tests. Two illustrations, bibliography of two titles. Resumé.

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Antennas

USSR

ZAYCHENKO, A. , Radio Physics Engineer

"Speak Stars!"

Moscow, Radio, No 8, Aug 71, pp 8-9

Abstract: The article is a description of the UTR-2 Radiotelescope built in Grakovo in the Khar'kovskaya Oblast. The telescope covers an area of 15.5 hectares (about 38.3 acres). A bird's eye view of the antenna reveals a huge letter "T" with dimensions of 1860 x 900 meters. The thickness of the letter is 51 meters, and it consists of 2040 half-wave dipoles set up in a column six abreast. These dimensions give an equivalent electrical area of 150,000 sq. m. at the zenith for reception of extremely weak radio sources located tens of billions of light years from the earth. The "T" shape gives practically the same resolution as a "cross" antenna with much fewer elements. The dipoles of the antenna are fixed, and the "beam" of the radio telescope is controlled electrically by time delay lines in the form of sections of coaxial cable. The control system is described as well as the phasing circuit. A modulation method is used for accumulation of useful signals with chart-recorder registration. A time system of phasing is used which makes the parameters of the installation independent of frequency.

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1/2 C18
TITLE--AUTOCLAVED NUTRIENT MEDIUM FOR CULTURING LEPTOSPIRA -U-
AUTHOR--ZAYCHENKO, A.S.
COUNTRY OF INFO--USSR
SOURCE--VETERINARIYA, 1970, NR 3, PP 109-110
DATE PUBLISHED-----70
SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LEPTOSPIRA, CULTURE MEDIUM, COMMERCIAL ANIMAL, BLOOD SERUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO-----FD70/605049/ED4 STEP NO--UR/0346/70/000/003/0109/0110
CIRC ACCESSION NO--AP0143387
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0143387

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GROWTH OF LEPTOSPIRA ON MEDIUM FROM SHEEP AND CATTLE SERUM WAS COMPLETELY SATISFACTORY. SERUM WAS ADDED TO DISTILLED WATER AND KAMPOLCN AND AUTOCLAVED. THE OPTIMUM PH FOR CULTIVATION OF LEPTOSPIRA IS 7.2-7.5. THE PH OF THIS MEDIUM VARIED FROM 7.2-7.7. THE BEST GROWTH WAS NOTED ON MEDIA CONTAINING 6-10PERCENT SERUM. LEPTOSPIRA CULTIVATED ON THIS MEDIUM WERE ESPECIALLY MOTILE. SEROTYPES L. HEDDGMADIS, L. ICTEROHAEMORRHAGIAE, L. POMONA, AND L. GRIPPOTYPHOZA GREW BEST, AND L. TARASSOVI AND L. BATAVIAE NOT AS WELL.

FACILITY: MOSKOVSKIY TEKHNOLGICHESKIY INSTITUT MYASNOY I MOLOCHNOCY PROMYSHLENNOSTI MOSCOW TECHNOLOGICAL INSTITUTE OF THE MEAT AND DAIRY INDUSTRY.

UNCLASSIFIED

172 016 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--A MODIFIED METHOD OF DIAGNOSING LEPTOSPIROSIS IN SWINE -U-

AUTHOR--(02)-LYUBASHENKO, S.YA., ZAYCHENKO, A.S.

COUNTRY OF INFO--USSR

SOURCE--VETERINARIYA, 1970, NR 2, PP 98-100

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--LEPTOSPIROSIS, HOG, COMPLEMENT FIXATION TEST, DIAGNOSTIC
MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3003/1230

STEP NO--UR/0346/70/000/002/0098/0100

CIRC ACCESSION NO--AP0130240

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0130240

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW METHOD FOR DIAGNOSING LEPTOSPIROSIS OF SWINE IS BASED ON THE PROLONGED COMPLEMENT FIXATION REACTION WITH SWINE SERUM SINGLE ANTIGENS OR POLYANTIGEN. A POLYANTIGEN CONTAINING SEROTYPES L. GRIPPOTYPHOSA, L. POMONA, L. ICTERHAEMORRHAGIAE, L. TARASSOVI, L. HEBDOMADIS, AND L. BATAVIAE WAS SPECIFIC IN THE PROLONGED COMPLEMENT FIXATION REACTION AND DID NOT SHOW ANTICOMPLEMENT PROPERTIES IN A DOUBLE TITRATED DOSE. A TOTAL OF 4.9 PERCENT MORE POSITIVE AND DOUBTFUL REACTIONS AMONG ANIMALS WERE DETECTED BY THIS METHOD THAN WITH THE STANDARD COMPLEMENT FIXATION TEST. THE PROLONGED COMPLEMENT FIXATION TEST WAS ALSO BETTER FOR DIFFERENTIAL DIAGNOSIS OF ANIMALS WITH LEPTOSPIROSIS FROM ANIMALS CONVALESCING FROM THE DISEASE THAN THE COMMONLY EMPLOYED MICROAGGLUTINATION AND LYSIS TEST. FACILITY: MOSCOW TECHNOLOGICAL INSTITUTE OF THE MEAT AND DAIRY INDUSTRY.

UNCLASSIFIED

USSR.

UDC 665.4:542.943

NOVOSELOVA, L. V., BABEL', V. G., ZAYCHENKO, L. P., PROSKURYAKOV, V. A.

"Synergism of Mixtures of Alkylphenol and Phosphonate Antioxidants in the Process of Oxidation of White Paraffin Oil"

Leningrad, Zhurnal prikladnoy khimii, Vol 64, No 10, Oct 71, pp 2349-2352

Abstract: This paper deals with new antioxidants, their mixtures and synergistic properties. Alkylphenols are the basic antioxidants; thiocarbonates, sulfides, phosphites and phosphonates are the synergists which enhance the inhibiting action of alkylphenols. An attempt to explain the mechanism and factors responsible for the synergistic effect is described here. The experiment involved dialkylphosphonate (as the synergist) and alkylphenol (antioxidant). Mixtures of both were tested on white paraffin oil as a readily oxidizable medium. The total concentration of the inhibitors in the oil was constant and equal to 0.005 mol/l. Only the "phosphite-phenol" ratio was varied. Binary diagrams were plotted on the basis of the test data for 1/2

USSR

NOVOSELOVA, L. V., et al, Zhurnal prikladnoy khimii, Vol 64,
No 10, Oct 71, pp 2349-2352

each individual component and of the phosphite-phenol mixtures as functions of concentration. The results show ionol:MB-1 in ratios of 0.001:0.004 and 0.002:0.003 to have the highest synergistic effect. The maximum induction period exceeded that of the most effective inhibitor, at a concentration of the latter equal to the total, by a factor of 2.0-2.5. When used independently, the antioxidants were not very effective. In mixtures with thiophosphonate they inhibit oxygen absorption, with the effect directly proportional to the content of thiophosphonate. Curves are shown to demonstrate the kinetics of oxygen absorption during oxidation of paraffin oil in the presence of different mixtures of inhibitors at 175°C; the induction period of paraffin oil oxidation as a function of phosphonate: ionol molar ratio.

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USSR

UDC: 536.2:536.63

PELETSKIY, V. E., CHEKHOVSKOY, V. Ya., SOVITSKIY, Ye. M., TYLKINA, M. A.,
AMASOVICH, Ye. S., ARSKAYA, Ye. P., ZAYCHENKO, V. M., PETUKHOV, V. A.,
Institute of High Temperatures of the Academy of Sciences of the USSR,
Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences of
the USSR

"Some Physical Properties of a New Alloy in the Nickel-Rhenium-Molybdenum
System"

Moscow, Teplofizika Vysokikh Temperatur, Vol 11, No 2, Mar/Apr 73, pp
435-436

Abstract: The authors study the heat conduction, coefficient of thermal
expansion and resistivity of an alloy in the nickel-rhenium-molybdenum
system containing 10 wt.% Re and 15 wt.% Mo. Curves are given showing the
temperature dependence of the measured parameters between 100 and 1000°C.
The results indicate structural transformation of the alloy in the solid
state. Analysis points to the possibility of formation of the so-called
K-state observed in the region of solid solutions of the nickel-chromium
system with more than 16% chromium. However, a final explanation of the
observed anomalies will require further research.

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USSR

UDC 533.697

ABOLTIN, E. V., ZAYCHENKO, Ye. N.

"Calculation of Turbine Flow in a Bladeless Diffuser of a Centrifugal Compressor Considering Compressibility"

Tr. Tsentr. n.-i. avtomob. i avtomor. in-ta (Works of the Central Scientific Research Automobile and Automobile Motor Institute), 1972, No. 138, pp 15-35 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B379)

Translation: A steady-state axisymmetric turbulent flow of gas in a bladeless diffuser of a centrifugal compressor is analyzed considering such characteristics as the three-dimensional character of the flow, the absence of a potential nucleus and the heterogeneity of the flow over the profile of the channel. Relationships for calculating the coefficient of the decrease in the velocity circulation, the average angle of flow and the average static pressure were calculated by integrating the differential equations of motion. It was shown that the meridional component of the tangent stress has a negligibly small effect on losses to friction in a bladeless diffuser in the range $b_2 \geq 0.04$ and $\alpha_2 \leq 30^\circ$. The calculations of the coefficient of the decrease in the

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USSR

ABOLTIN, E. V., ZAYCHENKO, Ye. N., Tr. Tsentr. n.-i. avtomob. i avtomor. in-ta, 1972, No. 138, pp 15-35

circulation of velocity are compared with data obtained by a calculation by the formulas of K. Pfleyderer, G. N. Den and Val'denatstsi. The comparison showed that consideration of the additional factors affecting the flow in the diffuser leads to a decrease in this coefficient. Comparison of the computational results and experimental data indicate the sufficient accuracy of the computational method for determining the surrounding velocity component and the angle of flow over a wide range of modes with respect to the flow angle ($10^\circ \leq \alpha_2 \leq 40^\circ$) and the Mach number ($M(c_2) \leq 0.8$). It is also shown that the use of the computations of the average velocity in calculating total pressures on the basis of static pressure measured on both walls of the diffuser ensure a high accuracy in determining the average total pressure. One can say, starting from this, that a similar method for determining the total pressure can be used in testing a compressor to evaluate the effectiveness of elements of the flow portions. 7 ref. Authors' abstract.

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USSR

UDC 533.697

ABOLTIN, E. V., ZAYCHENKO, Yu. N.

"Calculating the Potential Gas Flow in a Bladeless Diffuser of a Centrifugal Compressor"

Tr. Tsentr. n.-i. avtomob. i avtomor. in-ta (Works of the Central Scientific Research Automobile and Automobile Motor Institute), 1972, No. 138, pp 9-14 (from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B377)

Translation: A method is proposed for calculating the potential flow of a gas in a bladeless diffuser of a centrifugal compressor which makes it possible to determine the angle of the flow and the degree of rise in static pressure directly from graphs, given the initial conditions at the input to the diffuser. A method is also proposed for calculating the width of the bladeless diffuser for a given distribution of the degree of rise in static pressure in the radial direction. 5 ref. Authors' abstract.

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USSR

UDC 533.697

ABOLTIN, E. V., ZAYCHENKO, Yu. N.

"Study of Flow in a Bladeless Diffuser With Varying Wall Roughness"

Tr. Tsentr. n.-i. avtomob. i avtomor. in-ta (Works of the Central Scientific Research Automobile and Automobile Motor Institute), 1972, No. 138, pp 3-8
(from RZh-Mekhanika, No 3, Mar 73, Abstract No 3B378)

Translation: The effect of sand roughness on flow in a bladeless diffuser was obtained as a function of the coefficient of losses with respect to the relative roughness as the result of a study. This relationship indicates the rapid rise in losses in the diffuser with an increase in roughness. It was shown that an increase in roughness leads not only to a growth in losses to friction but also to an intense rise in the magnitude of reverse radial currents. An approximate evaluation of the effect of the rise in the class of the cleanness of the surface of the diffuser walls on the efficiency of the compressor is given on the basis of the data obtained. Authors' abstract.

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- 70 -

USSR

UDC 519.24

ZAYCHENKO, YU. P.

"On an Evaluation of Parameters of a Nonstationary Process of a Single Class"

Vestn. Kiyev. politekhn. in-ta. Ser. avtomatiki i elektropri-borostr. (Herald of the Kiev Politechnic Institute, Automation and Electrical Instrument-making Series), No 8, 1971, pp 71-73 (from Referativnyy Zhurnal -- Matematika, No 9, Sep 71, Abstract No 9V259)

Translation: The problem of evaluating the parameters of a non-stationary random process whose characteristics drift according to an unknown time law is examined. A two-state algorithm of stochastic approximation is proposed for its solution. The first stage is the usual stochastic approximation procedure, and the second is a prediction method based on the Kolmogorov-Gabor formula and is intended to isolate the trend (drift law). The evaluation of the trend found is used in the first-stage algorithm in the next step.

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1/3 015 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--RESULTS OF OBSERVATION OF SPRING RESTRUCTURING OF CIRCULATION IN
THE SOUTHERN HEMISPHERE USING METEOROLOGICAL ROCKETS, SPRING
AUTHOR--(03)-GAYGEROV, S.S., ZAYCHIKOV, B.P., KALIKHMAN, M.YA.

COUNTRY OF INFO--USSR

SOURCE--CENTRAL AEROLOGICAL OBSERVATORY; MOSCOW, IZVESTIYA AKADEMII NAUK
SSSR, FIZIKA ATMOSFERY I OKEANA, VOL VI, NO 4, 1970, PP 381-387
DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES, MISSILE TECHNOLOGY, MECH., IND.,
CIVIL AND MARINE ENGR
TOPIC TAGS--METEOROLOGIC ROCKET, ATMOSPHERIC CIRCULATION, OCEANOGRAPHIC
SHIP, STRATOSPHERE, MESOSPHERE/(U)A I VOYEYKOV SHIP

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/0364

STEP NO--UR/0362/70/006/004/0381/0387

CIRC ACCESSION NO--AP0114657

UNCLASSIFIED

2/3 015

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114657

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DURING THE 18TH VOYAGE OF THE RESEARCH VESSEL "A. I. VOYEYKOV" A DETAILED STUDY WAS MADE OF THE ATMOSPHERE USING RADIOSONDES AND METEOROLOGICAL ROCKETS IN THE INDIAN OCEAN. THE RESULTS OF THESE OBSERVATIONS WERE CHARACTERISTIC FOR SUMMER CONDITIONS IN THE MIDDLE LATITUDES WITH EASTERLY WINDS IN THE STRATOSPHERE AND A LOW TEMPERATURE IN THE MESOSPHERE. THE COLLECTED DATA AGREE RATHER WELL WITH THE COSPAR STANDARD ATMOSPHERE CIRA-1965. REGULAR RADIOSONDE OBSERVATIONS WERE MADE THREE TIMES PER DAY DURING THE ENTIRE VOYAGE. ROCKET SOUNDING YIELDED TEMPERATURE DATA TO AN ALTITUDE OF ABOUT 80 KM AND WIND DATA TO 50-55 KM. THE OBSERVED CHARACTERISTIC PROCESSES ARE DESCRIBED: WARMING IN THE UPPER STRATOSPHERE IN THE 50DEGREES LATITUDE RANGE, REVERSAL OF THE HORIZONTAL TEMPERATURE GRADIENT, CHANGE IN ALTITUDE OF THE STRATOPAUSE, CHANGE IN VELOCITY OF STRATOSPHERIC JET STREAMS AND DISPLACEMENT OF THE STRATOSPHERIC ANTICYCLONE SITUATED OVER THE SOUTHERN PART OF THE OCEAN IN THE DIRECTION OF THE ANTARCTIC CONTINENT. FOR EXAMPLE, THE OBSERVATIONS FOR THE FIRST TIME DISCLOSED STRONG STRATOSPHERIC WARMING IN THE ZONE 45-55DEGREES AT ALTITUDES 30-45KM. THE REGION OF WARMING CORRESPONDS TO CURRENT CONCEPTS CONCERNING THE INITIAL STAGE OF SPRING RESTRUCTURING OF STRATOSPHERIC CIRCULATION WHICH INDICATE THAT THE WARMINGS FIRST ARE DETECTED AT HIGH LEVELS AND IN THE RELATIVELY LOW LATITUDES AND THEN ARE PROPAGATED DOWNWARD AND POLEWARD. IN THE SOUTHERN HEMISPHERE THE MAXIMUM ZONE CONTENT IS AT 50-55DEGREES.

UNCLASSIFIED

3/3 015

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0114657

ABSTRACT/EXTRACT--IT MAY BE THAT THE CONSIDERABLE RADIATION HEATING OF THE OZONE LAYER IN THE REGION OF ITS MAXIMUM SERVES AS THE PRIME MOVING FACTOR FOR THE FURTHER DEVELOPMENT OF THE LARGE SCALE RESTRUCTURING PROCESS. THIS PROCESS TAKES PLACE BY THE PROPAGATION OF RIDGES OF ANTICYCLONES SOUTHWARD FROM THE LOW LATITUDES AND THE GRADUAL EXPULSION OF THE FILLING POLAR CYCLONE INTO THE SOUTH AMERICAN SECTOR OF ANTARCTICA.

UNCLASSIFIED

172 025 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--VERTICAL DISTRIBUTION OF THE MAIN METEOROLOGICAL PARAMETERS AND
LARGE SCALE PROCESSES IN THE STRATOSPHERE AND MESOSPHERE -U-
AUTHOR--(05)--GAYGEROV, S.S., ZAYCHIKOV, S.P., KALIKHMAN, M.YA., SEDOV,
V.YE., TARASENKO, D.A. 2
COUNTRY OF INFO--USSR
SOURCE--COSPAR, PLENARY MEETING, 13TH, LENINGRAD, USSR, MAY 20-29, 1970,
PAPER. 42P
DATE PUBLISHED-----70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--STRATOSPHERE, MESOSPHERE, VERTICAL PROFILE, TEMPERATURE,
ATMOSPHERIC CIRCULATION, METEOROLOGIC ROCKET, OROGRAPHY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0005

STEP NO--UR/0000/70/000/000/0042/0042

CIRC ACCESSION NO--AT0125845

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0125845

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DESCRIPTION OF VERTICAL TEMPERATURE PROFILES AND GLOBAL CIRCULATION PATTERNS IN THE STRATOSPHERE AND MESOSPHERE, USING ROCKET DATA FROM RESISTANCE THERMOMETER, THERMISTOR, AND GRENADE MEASUREMENTS. THE OBTAINED MEAN TEMPERATURE DISTRIBUTION AS A FUNCTION OF ALTITUDE IS COMPARED WITH DIFFERENT STANDARD AND REFERENCE ATMOSPHERES. SEASONAL AND LATITUDINAL TEMPERATURE VARIATIONS ARE CONSIDERED TOGETHER WITH LONGITUDINAL VARIATIONS IN THE NORTHERN HEMISPHERE. ANALYSIS OF PRELIMINARY GLOBAL CIRCULATION PATTERNS IN THE UPPER STRATOSPHERE AND LOWER MESOSPHERE SHOWS THAT SUMMER ANTICYCLONIC CIRCULATION IS POLARLY SYMMETRICAL AND IS PRACTICALLY THE SAME IN BOTH HEMISPHERES. WINTER CIRCULATION IN THE SOUTHERN HEMISPHERE IS LESS PERTURBED DUE TO THE OROGRAPHY AND UNIFORMITY OF THE UNDERLYING SURFACE IN THIS HEMISPHERE.
FACILITY: GLAVNOE UPRAVLENIE GIDROMETEOROLOGICHESKOI SLUZHBY SSSR, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 534.121.2:661.7

3
APEL'TSIN, I. E., KARELIN, F. N., LISHNEVSKIY, V. A., DUBYAGA, V. P.,
PEREPECHKIN, L. P., MIRONOVA, L. V., and ZAYCHUKOVA, N. A.

"Acetylcellulose Membranes for Desalination of Water by Hyperfiltration"

Moscow, Vodosnabzheniye i Sanitarnaya Teknika, No 6, 1971, pp 18-19

Abstract: Three types of membranes are reported suitable for water desalination. One prepared from an acetone solution of acetylcellulose "Etrol B" with a small quantity of water and magnesium perchlorate was deposited on glass at -12°C , kept in air for 3.5 min, the membrane was separated from glass and kept in water at 80° for 70 min. Such a membrane gave a 84-88% desalination with $500 \text{ l/m}^2\cdot\text{day}$ of water passage at 50 atm pressure. Using the same "Etrol B" acetyl cellulose in acetone and formamide, the membrane was formed on glass at 18°C , then treated at 80°C for 30 min. This membrane gave a 83-85% desalination with $800 \text{ l/m}^2\cdot\text{day}$ passage capacity at 50 atm pressure. Acetyl cellulose membranes prepared from acetic acid solution containing triethanolamine acetate and sulfate admixtures gave a 90-91% desalination with $300 \text{ l/m}^2\cdot\text{day}$ passage of water at 65 atm pressure.

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1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--USE OF COMPUTERS FOR SOLVING SOME GEOCHEMICAL PROBLEMS -U-
AUTHOR--(02)-ZAYDEL, A.R., PETUKHOV, A.V.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., NEFT. GAZ 1970, 13(1), 13-17
DATE PUBLISHED-----70

SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., EARTH SCIENCES AND
OCEANOGRAPHY
TOPIC TAGS--GEOCHEMISTRY, COMPUTER APPLICATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1093 STEP NO--UR/0152/70/013/001/0013/0017
CIRC ACCESSION NO--AT0119952
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119952

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE COMPUTER PROGRAM PROVIDED FOR MATH. STATISTICS AND CORRELATION OF THE ANAL. RESULTS, PROCESSING SIMULTANEOUSLY DATA UP TO 16 COMPONENTS. EXPANSION IN SERIES OF GRAMMA CHARLIER ON THE LOGNORMAL DERIVS. WAS PROVIDED FOR THE ANAL. OF THE DISTRIBUTION FORM. THE COMPUTING RESULTS WERE PRESENTED AS TABLES, CORRELATION MATRIX, AND DISTRIBUTION PLOTS OF THE GEOCHEM. DATA. FORMS AND COORDINATION DISTRIBUTION OF COMPONENTS ARE PRESENTED.
FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 661.143

TVERDOKHLEB, I. G., SAMINSKIY, L. A., ZAYDEL', I. N., KUCHEROV, V. G.

"A Photochemical Method of Making Fine-Structured Screens With the Use of Centrifuging"

Sb. nauch. tr. VNII lyuminoforov i osobo chist. veshchestv (Collected Scientific Works of the All-Union Scientific Research Institute of Phosphors and Extra Pure Materials), 1971, vyp. 5, pp 119-124 (from RZh-Khimiya, No 7, Apr 72, Abstract No 7L179)

Translation: The paper presents the results of a study of fine-structured screens made by photographic exposure of coatings deposited by centrifuging from a suspension of a luminescent composition in a solution of surface-active agent with subsequent application of an organic film of acrylate lacquer by using centrifugal forces before aluminizing. The surface-active agent and organic film are removed from the screen by heating in air. The method ensures a higher technological yield and improves the resolution of the screens as compared with the conventional method of making screens. The method can be readily mechanized and shortens the duration of the technological processes. The procedure can be recommended for use in serial production. Resumé.
1/1

USSR

UDC 533.6.011/72

ZAYDEL', R. M., (moscow

"Shock Waves Propagation Through a Curved Interface of Two Media"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Zhidkosti i Gaza, No 1, Jan-Feb 72, pp 111-121

Abstract: The interaction of shock waves with a slightly curved interface of two media, one light and one heavy, and the motion of this interface, caused by shock waves passage are considered, with reference to the article by R. D. Richtmyer on Taylor instability in shock acceleration. Various limit cases, for ex. when the shock wave intensity tends to zero are analyzed using an analytical method developed previously by the author. The results obtained are in agreement with the Raleigh-Taylor basic equation of gravitational instability.

1/1

USSR

ZAYDES, V. M., VOLKOVA, M. YA., BUKRINSKAYA, A. G., and ZHDANOV, V. M.,
Academician, Academy of Medical Sciences USSR, Institute of Virology, Academy
of Medical Sciences USSR, Moscow

"Sedimentation and Density Characteristics of Some Cellular and Virus-Specific
Ribonucleoproteins in Cytoplasmatic Extracts From Chick Embryo Cells Infected
With Newcastle Disease Virus"

Moscow, Doklady Akademii Nauk SSSR, Vol 199, No 1, 1971, pp 219-221

Abstract: Fractionation of a cytoplasmatic extract from chick embryo cells
containing labeled stable cellular RNA (H^3 tagged) and virus-induced RNA
(C^{14} tagged) showed that both labeled compounds sedimented at the same rate
(~ 45 S) and in the same density region (~ 1.46 g/ml). This suggests that
the cellular and virus-specific ribonucleoproteins are physically related.
Such an assumption is consistent with the results of N. V. Kaverin's func-
tional analysis of the viral component of the hypothetical complex, which
indicate that virus-induced RNA can be transported from the 45 S structures
to polyribosomes. This complex is regarded as the initiator of viral protein
synthesis.

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USSR

UDC 576.858.5.083.35:616-006.6.018]:675.8.095.383.098.
396.332

ZAYDES, V. M., VOLKOVA, M. Ya., and BUKRINSKAYA, A. G., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Virus-Induced RNA in Polyribosomes of Ehrlich Ascites Carcinoma Cells Infected
With Sendai Virus"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 70, pp 518-524

Abstract: After inoculation of Ehrlich ascites carcinoma cells with Sendai virus, virus-induced RNA was detected in pre-ribosome and post-ribosome zones of the sucrose gradient. The structures in the pre-ribosome zone was identified as virus-specific polyribosomes. Analysis in CsCl density gradient indicated that the polyribosomes occupy the $\rho = 1.51 \text{ g/cm}^3$ position. Viral polyribosomes were sensitive to an Mg^{2+} deficiency in solution. When treated with a buffer solution containing a low Mg^{2+} concentration, polyribosome sedimented at a low rate during analysis in the sucrose density gradient. The virus-induced polyribosome RNA consisted primarily of 18S RNA and an RNA which sedimented in the heterogeneous zone at a greater rate. The 18S RNA was present in polyribosomes with a low sedimentation constant (110-170 S).

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USSR

KAVERIN, N. V., ZAYDES, V. M., et al, Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Sedimentation Analysis of Virus-Specific Informosome-Like Structures in Cell Extracts Infected With Newcastle Disease Virus"

Moscow, Voprosy Virusologii, No 2, Mar/Apr 71, pp 138-143

Abstract: In cell extracts infected with Newcastle disease virus, virus-induced RNA is distributed in the polyribosome zone and the postribosome (~45S) area. Extracts were centrifuged in a sucrose density gradient. Polyribosome material contains RNA of 18S, 35S and 57S classes, whereas the postribosome material, representing the informosome-like 45-S component, yielded only 18S RNA. When nonfractionated extracts were centrifuged in a cesium chloride density gradient, a considerable portion of the radioactivity was detected in the zone corresponding to the buoyant density of the informosome-like component (1.43 g/ml). Analysis of material of this zone in a sucrose density gradient revealed the presence of a 90S-component in addition to the 45-S structures. A hypothesis about the existence of sedimentation classes of informosome-like structures, corresponding to classes of virus-specific RNA, was suggested.

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USSR

UDC 576.858

ZAYDES, V. M., ZASLAVSKIY, V. G., KAVERIN, N. V., BUKRINSKAYA, A. G., and VOLKOVA, M. Ya. Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Virus-Specific Informosome-Like Component in Cell Extracts Infected With Newcastle Disease Virus"

Moscow, Molekulyarnaya Biologiya, Vol 4, No 4, Jul/Aug 70, pp 607-611

Abstract: Slowly sedimenting structures in cytoplasmatic extracts of a culture of chick embryo cells infected with Newcastle disease virus were detected and characterized. These structures (an informosome-like component) contain a virus-induced RNA with a sedimentation coefficient of 45S; they separate in the density gradient of cesium chloride in the $\rho=1.43\text{g/ml}$ zone. The RNA of the informosome-like component is complementary to the RNA of the mature virus whose sedimentation coefficient is 18S. The data obtained are discussed in relation to the possible role of the informosome-like component in paramyxovirus reproduction.

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USSR

UDC 576.358.75.098.396.332

ZAYDES, V. M., NIKOLAYEVA, O. G., SELIMOVA, L. M., and BUKRINSKAYA, A. G.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR,
Moscow

"The Role of Sendai Virus Nucleocapsid in Transcription of Viral RNA"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 602-608

Abstract: Sendai virus RNA-polymerase catalyzes incorporation of ribonucleoside triphosphates into an acid-insoluble material in vitro. The incorporation is linear for at least an hour. A portion of the synthesized substance is attached to the nucleocapsid. The bond is specific, and as soon as the growing chain matures into RNA, the molecule becomes free and leaves the structure. Similarly, virus RNA-polymerase promotes synthesis of virus specific RNA in Ehrlich ascites carcinoma cells very soon after these cells are infected with Sendai virus, and RNA transcription occurs in structures resembling virus nucleocapsid. It is concluded that Sendai virus nucleocapsid participates in transcription of virus RNA in vitro and in vivo.

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Burn Studies

USSR

UDC 617-001.17-06:616-008.939.6-085.355:577.
156.014

DOLGINA, M. I., PANOVA, Yu. M., ZAYETS, T. L., and KUZNETSOVA, A. N.,
Institute of Surgery im. A. V. Vishnevskiy, Academy of Medical Sciences USSR,
Moscow

"Ways of Slowing Protein Catabolism in Burns"

Moscow, Sovetskaya Meditsina, No 1, 1973, pp 33-36

Abstract: Contrical, an East German drug known to inhibit trypsin, chymotrypsin, plasmin, and kallidinogenase, was administered to 28 patients with extensive thermal burns, all of whom were suffering from hypoproteinemia, hypoalbuminemia, and elevated globulin levels at the initiation of contrical treatment. The drug prevented the continued decrease in serum proteins, especially albumins, characteristic of the early period of burns. Two to 3 days after the burn the activity of the proteolytic enzymes increased markedly along with the development of hypo- and dysproteinemia. Contrical was suspended after 7 days but proteolytic activity began to decrease and continued to do so for 7 more days. At this time the patients exhibited a tendency toward hyperexcretion of nitrogen (urea nitrogen) and sharp increase in excretion of creatine. Thus, contrical would seem to be efficacious in inhibiting the breakdown of tissue and serum proteins that normally occurs in burns.

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172 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ROLE OF VOLUME ENERGY IN THE FORMATION OF SECONDARY
RECRYSTALLIZATION NUCLEI -U-
AUTHOR--ZAYDMAN, I.D.
COUNTRY OF INFO--USSR
SOURCE--FIZIKA METALLOV I METALLOVEDENIE, JAN. 1970, 29, (1), 190-192
DATE PUBLISHED---JAN70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--RECRYSTALLIZATION, NUCLEATION, TRANSFORMER STEEL, GRAIN
STRUCTURE, HEAT OF CRYSTALLIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1386 STEP NO--UR/0126/70/029/001/0190/0192
CIRC ACCESSION NO--AP0125034
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0125034

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXISTING VIEWS REGARDING THE PART PLAYED IN THE FORMATION OF SECONDARY RECRYSTALLIZATION NUCLEI IN TRANSFORMER STEEL BY THE VOLUME ENERGY, OR RATHER THE DIFFERENCE IN THE VOLUME ENERGY BETWEEN GRAINS OF DIFFERENT ORIENTATIONS IN THE PRIMARY RECRYSTALLIZATION MATRIX, ARE DISCUSSED AND ANALYSED. IN GENERAL IT WOULD APPEAR THAT THE EFFECT OF VOLUME ENERGY ON THE FORMATION OF RECRYSTALLIZATION NUCLEI CANNOT BE REGARDED AS FINALLY ESTABLISHED, BUT NEITHER SHOULD IT BE REFUTED WITHOUT FURTHER STUDY.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--CONFORMITY BETWEEN THE CALCULATED AND RECORDED NUMBER OF PRIMARY
INFECTIOUS DISEASES IN CHILDREN'S COLLECTIVE BODIES -U-
AUTHOR--(03)--LEVI, H.I., TURCHANINA, N.A., ZAYDNER, G.B.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6,
PP 90-95
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--PEDIATRICS, INFECTIOUS DISEASE, MATHEMATIC ANALYSIS, POISSON
EQUATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/0416 STEP NO--UR/0016/70/000/006/0090/0095
CIRC ACCESSION NO--AP0126169
UNCLASSIFIED

2/2 022

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0126169

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD OF DETERMINATION OF THE NUMBER OF PRIMARY (BROUGHT IN) PATIENTS SUFFERING FROM INFECTIOUS DISEASES IN CHILDREN'S COLLECTIVE BODIES BY COMPARING THE NUMBER OF GROUPS FREE OF INFECTIONS WITH THE NUMBER OF ALL THE GROUPS WAS USED. THIS METHOD WAS SHOWN TO CORRELATE WELL WITH THE RECORDED NUMBER OF PATIENTS. THIS POINTED OUT THAT THE SUPPOSITION THAT DISTRIBUTION OF PRIMARY PATIENTS IN COLLECTIVE BODIES CORRESPONDED TO POUASSON'S DISTRIBUTION WAS CORRECT. THE NUMBER OF PRIMARY PATIENTS FAILED TO DEPEND DIRECTLY EITHER UPON THE CHARACTER OF THE INFECTION OR THE NUMBER OF DISEASES, BUT DEPENDED ON THE NUMBER OF COLLECTIVE BODIES FREE OF INFECTIONS, AND ON THE TOTAL NUMBER OF COLLECTIVE BODIES.
FACILITY: MOSKOVSKAYA GORODSKAYA DEZINFEKSIONNAYA STANTSIYA I
SANITARNO-EPIDEMIOLOGICHESKAYA STANTSIYA KIYEVSKOGO RAYONA MOSKVY.

UNCLASSIFIED

USSR

UDC: 621.372.832

ZAYENTSEV, V. V.

"Power Addition and Division in a Three-Decibel Directional Strip Coupler"

V sb. Radiofiz. i mikroelektronika (Radio Physics and Microelectronics--collection of works), Voronezh, 1970, pp 22-28 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B167)

Translation: The author discusses the frequency properties of a coupler made in the form of two asymmetric transmission lines coupled at the wide wall, as well as its energy relationships under power addition and division conditions. The coefficient of reflection, signal power dissipated in loads, and the efficiency of the directional coupler in both the addition and division modes are determined. Four illustrations, bibliography of one title. N. S.

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USSR

UDC: 621.372.832

ZAYENTSEV, V. V.

"Scattering Matrix of a Wide-Band Power Divider With Outputs of Opposite Phase"

V sb. Radiofiz. i mikroelektronika (Radio Physics and Microelectronics-- collection of works), Voronezh, 1970, pp 13-17 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6B166)

Translation: The author determines the scattering matrix of a wide-band power divider with antiphase outputs constructed on the principle of series connection of two directional couplers. The scattering matrix can be used to determine the input reflection factor for any mismatched output poles, as well as the energy relationships under power division and adding conditions. One table, bibliography of three titles. N. S.

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USSR

UDC: 621.396.61

SOKOLOV, M. F., ZAYENTSEV, V. V.

"Analysis of the Stability of an Amplifier With Distributed Gain Based on Power Transistors"

V sb. Radiofiz. i mikroelektronika (Radio Physics and Microelectronics--collection of works), Voronezh, 1970, pp 18-21 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D293)

Translation: The authors analyze the stability of amplifiers with distributed gain based on power transistors with regard to the energy parameters and the capacitance of the collector junction in the feedback circuit. The limits of operational stability are determined. Two illustrations, bibliography of three titles. N. S.

1/1

USSR

UDC: 621.372.54.061

ZAYEZDNYI, A. M., KEMESHIS, P. P., and STASYUNAS, A. S.

"Theoretical Bases of the Design of Parametric Filters Equivalent to Linear Filters"

Kiev, Izvestiya VUZ USSR--Radioelektronika, No 10, 1972, pp 1195-1203

Abstract: The parametric filters under discussion in this article are RC circuits designed to replace filters using inductances. As defined here, the parametric filter is a circuit consisting of resistors and a single capacitor, with one of the resistors varying in accordance with the control circuit signal. The linear filter consists of elements with constant parameters and can be described by the n-th order linear differential equation

$$\sum_{i=0}^n a_i \frac{d^i}{dt^i} x(t) = f(t)$$

with constant coefficients. The problem the authors set themselves is stated in this way: Given the differential equation or transfer
1/2

USSR

ZAYEZDNYI, A. M., et al, Izvestiya VUZ USSR--Radioelektronika,
No 10, 1972, pp 1195-1203

function of a physically realizable circuit, and given an external action $f(t)$ and the circuit reaction $x(t)$; required, to synthesize the circuit realizing the transformation of $f(t)$ into $x(t)$ under the condition that the circuit contain parametric filters and summer circuits of the same type connected in parallel. Three possible methods of solving the problem are offered: use of the Lagrange method of variation of constants, transition to the transfer function, and the recurrent method of finding periodic solutions.

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Information Theory

USSR

UDC: 621.391.81

ZAYEZDNYI, A. M., BREYTMAN, I. M., LIFSHITS, L. L.

"Methods of Accumulation and Their Use in Signal Processing"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Academic Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 51, pp 14-22 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A81)

Translation: Various storage systems used for data transmission over communications channels are classified. The most detailed analysis is devoted to systems of parametric accumulation where the useful information is contained in the values of several parameters of the carrier, and systems of aggregate accumulation based on the principle of equipment redundancy. Examples are considered. Resumé.

USSR

UDC: 621.372.061

ZAYEZDNYI, A. M. and ZAYTSEV, V. A.

"Structural-Signal Parametric Filters and Their Use as Signal Dividers"

Moscow, Radiotekhnika, Vol. 26, No. 1, 1971, pp 26-36

Abstract: The structural-signal parametric filters are defined as linear circuits with variable parameters constructed such that their parameters are controlled by functions of time in which information concerning the structural characteristics of the input signal is concentrated; they are described by nonhomogeneous, linear differential equations with coefficients which depend on structural characteristics. The purpose of this paper is give a general approach to the synthesis of such filters of the second order according to the conditions of generalized resonance. Examples of such syntheses are given, and the results were checked experimentally. It is found that these experimental findings are in complete accord with the theoretical results. The authors express their faith in these filters as a means of improving the characteristics of communications and radar systems.

1/1

USSR

UDC 621.396.2:621.371.1

ZAYEZDNYI, A. M., OKUNEV, YU. B. (Editors)

Apparatura peredachi diskretnoy informatsii MS-5 (Digital Data Transmission Equipment MS-5), Moscow, Svyaz Press, 1970, 152 pp, ill. 60 k (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A220K)

Translation: The construction principles, characteristics, test results and basic schematic solutions of equipment designed for digital data transmission over shortwave radio channels are presented. The possibilities of using the equipment in various communications systems are investigated. The collection is intended for engineering, technical and scientific workers in radio communications. There are 99 illustrations, 6 tables and an 89-entry bibliography.

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ZAYDOVSKIY E.G.

SPR 5 59208
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VII-11. STUDY OF THE EFFECT OF GROWTH CONDITIONS ON THE MORPHOLOGY AND PERFECTION OF SINGLE INDIUM ARSENIDE CRYSTALS GROWN FROM THE GAS PHASE
Article by A. V. Sandulova, E. G. Zaydovskiy, V. A. Prokhorov, L'vov Novosibirsk, *Izvestiya Akademii Nauk SSSR, Seriya Fiziko-Matematicheskie Nauki*, No. 1, 1974, p. 113

This paper is devoted to a study of a number of factors affecting the morphology and perfection of single crystals of one of the interesting semiconductor compounds, InAs — indium arsenide — grown in the closed gas transport process. The basic ones of these factors are the following: the thermal conditions, the type and concentration of transporting agents, the impurities introduced during the growth process. An experimental study of the heterozone equilibrium of $\text{InAs}-\text{As}_2\text{O}_3-\text{Cl}_2$ by [1, 2] permitted the conclusion to be drawn with respect to the selection of the temperatures of the crystallization and the source and concentration of transporting agents assuring maximum effectiveness of the transport process. The variation of the temperature conditions, the type and concentration of transporting agent permitted maximum crystals of different habit and different degree of perfection to be obtained. The most perfect crystals in structural respects turned out to be the single crystals obtained during the iodine process (an explanation of this fact is proposed). Highly pure indium arsenide (impurity concentration of this fact is 10^{-11}) was used in the experiments. The observed forms of single crystal growth combined with the data on determining the quantitative characteristics of the transport and crystallization processes indicate that growth takes place according to the vapor-crystal mechanism.

A study was made of the effect of certain admixtures on the transport and crystallization processes of single indium arsenide crystals grown from the gas phase. It was established that the presence of these impurities in the reaction chamber causes growth of single crystals of entirely different forms (filamentary, ribbon, and so on). In addition, a study was made of the results of indium arsenide on a noncrystalline substrate (III) on which the results demonstrate that in the presence of defined impurities the growth of the single indium arsenide crystals takes place according to the vapor-liquid-crystal mechanism.

UDC: 621.3:621.039.667

USSR

BOOK

DASHUK, P. N., ZAYENETS, S. I., KOMEL'KOV, V. S. (general editor), KUCHINSKIY, G. S., NIKOLAYEVSKAYA, N. N., SHKUROPAT, P. I., SHNEYERSON, G. A.
TEKHNIKA BOL'SHIKH IMPUL'SNYKH TOKOV I MAGNITNYKH POLEY (Technology of High-Current Pulses and Strong Magnetic Fields), Moscow, "Atomizdat", 1970, 472 pp, illus, biblio, 2465 copies printed

The book describes circuits, methods of calculation, characteristics and design of high-power capacitor banks and their principal elements: capacitors, dischargers of various types (vacuum, high-pressure, solid-dielectric), insulation of connectors (busbars, cables), and pulse transformers. Methods are presented for calculation of magnetic fields and inductances in solenoids and conductors. The singularities of operation of the structural elements are considered as well as the behavior of metals in superconducting fields.

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POLEY, Moscow, "Atomizdat", 1970

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PRIMARY SOURCE: Eksperimental'naya Khirurgiya i Anesteziologiya,
1970, Nr / , pp 85-87

THE CHANGE OF SH-GROUPS CONTENT IN BLOOD SERUM UNDER
THE INFLUENCE OF PARARENAL NOVOCAIN BLOCK

Zayets, T. L., Babakaya, Yu. Ye.

It is shown that the effect of pararenal novocain block on the structure of blood proteins is caused by injection of novocain into the pararenal region. Administration into the same zone of saline produces no changes in the titer of SH-groups in serum proteins. Administration of novocain intravenously and intramuscularly likewise produces no effect on SH-groups of serum proteins.

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1/2 032 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ROLE OF GLUCOCORTICOID AND MINERALOCORTICOID SECRETION IN
DISTURBANCES OF PROTEIN METABOLISM AFTER THERMAL TRAUMA -U-
AUTHOR-(02)-ZAYETS, T.L., NIKULIN, V.I.
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UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0133567

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MINERALOCORTICOIDS, BUT NOT
GLUCOCORTICOIDS, INCREASED THE ACTIVITY OF PROTEOLYTIC ENZYMES IN THE
LIVER, MUSCLES, AND KIDNEYS OF BURNED RATS AND INCREASED PROTEIN
SYNTHESIS IN ALL THE ORGANS. THE ADRENALECTOMY INDUCED DECREASE IN
PROTEOLYSIS IN RATS AFTER THERMAL TRAUMA WAS COMPLETELY RESTORED BY
DEOXYCORTICOSTERONE ACETATE (DOCA). THE LEVEL OF PRIME35 S LABELED
METHIONINE INCORPORATION IN THE LIVER, SERUM, AND CARDIAC MUSCLES OF
ADRENALECTOMIZED BURNED RATS WAS RESTORED BY CORTISONE TO THE LEVEL FOR
INTACT BURNED RATS. DOCA INCREASED THIS LEVEL TO LEVELS GREATER THAN
THOSE IN CONTROL OR IN INTACT BURNED RATS. FACILITY: INST.
KHIR. IM. VISHNEVSKOGO, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC [537.226+537.311.33]:[537+535]

ZAYEV, N. Ye., and KUZ'MINA, R. P.

"Dependence of the Surface Charge Density of Electrets on Temperature"

Tr. VNII elektromekh. (Works of the All-Union Scientific Research Institute of Electromechanics), 1971, Vol. 35, pp 200-209 (from RZh Fizika, No 12, Dec 71, Abstract No 12Yell157)

Translation: It was found that the surface charge density of homoelectrets increases with an increase in temperature. With a lowering of the temperature, the surface charge density decreases. The experimental data are satisfactorily explained on the basis of the absorption theory of electrets: Resume.

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Receivers and Transmitters

USSR

UDC 621.391.14

ZAYEZDNYI, A. M., PLOTKIN, Ye. I., CHERKASSKIY, Yu. A., Members of the Scientific and Technical Society of Radio Engineering, Electronics and Communications imeni A. S. Popov

"Signal Processing Based on Using the Structural Properties of the Signals"

Moscow, Radiotekhnika, Vol 26, No 9, Sep 71, pp 18-24

Abstract: The authors discuss the representation of signals in terms of their structural relations as illustrated by a class of structural models derived by comparing certain phase coordinates of a signal according to some rule. Examples are given of application of the structural model to synthesis of signal processing algorithms. Receivers are designed which are invariant to certain classes of interference. Bibliography of 19 titles.

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USSR

UDC: 621.391.84:621.391.883.2

ZAYEZDNYI, A. M., TARAYEV, A. I.

"Concerning the Probabilistic Characteristics of Structured Communications, and Possibilities for Using Them for Separating a Signal From a Mixture With Interference"

V sb. Materialy Nauch.-tekhn. konf. Leningr. elektrotekhn. in-tsvyazi. Vyp. 1 (Materials of the Scientific and Technical Conference of the Leningrad Electrical Engineering Institute of Communications--collection of works), Leningrad, 1971, pp 3-6 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3A21)

Translation: The paper proposes probabilistic characteristics for structured communications; these characteristics are combinations of the characteristics of the phase coordinates.
Resumé.

1/1